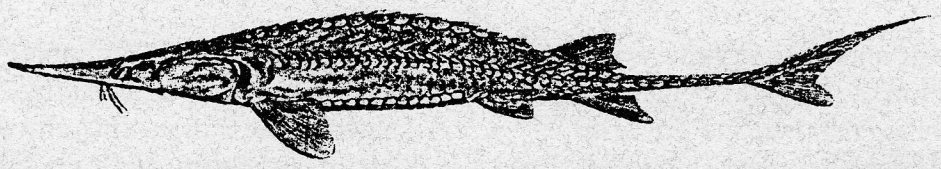


PALLID STURGEON RECOVERY UPDATE

- the latest research and recovery actions -

April, 1992 **Co-Editors: M. Dryer, S.Werdon**

Permit Applications and Renewals Due!

Persons interested in performing pallid sturgeon research in 1992 must apply for a permit to handle endangered species. Those with 1991 permits need to submit their annual reports, for permit renewal. Section 10 (Endangered Species Act) permit authority is needed to conduct almost any activity which would involve handling or disturbing pallid sturgeon. State agencies with cooperative funding agreements (Section 6 Agreements) for endangered species conservation are authorized to work on covered species through that agreement, and do not need an individual permit. By requiring annual reports on permitted activities, the U.S. Fish and Wildlife Service (Service) can evaluate recovery progress and facilitate information exchange. Please be aware that there is a time lag after an application (or report) is submitted before a permit will be issued (or renewed), so apply early. Permit applications and additional information can be obtained from: Mark Dryer, Fish and Wildlife Service, Bismarck, ND 701-250-4491.

INSIDE:

Recovery Team Meeting

The Pallid Sturgeon Recovery Team met for the fourth time in New Orleans, Louisiana during March, 1992. The Team has incorporated pertinent comments received during technical review into the Pallid Sturgeon Recovery Plan. The Recovery Plan identifies goals, objectives, and tasks and is scheduled for distribution in 1992.

Recovery Activities Underway

Following is a brief update on current recovery activities. More detailed information on each activity can be obtained from the contact individual specified.

Rangewide - The U.S. Army Corps of Engineers (Corps) has initiated a pallid and shovelnose sturgeon genetics study. The goals include determining species and hybrid genetic divergence and identification of genetically significant pallid sturgeon management stocks. Specimens will be collected from the Yellowstone, Missouri, Mississippi, Ohio, Atchafalaya, Alabama, and White Rivers. Approximately 10 to 15 shovelnose sturgeon are needed from populations within these rivers. Contact: Mark Harberg, Corps of Engineers, Omaha, NE 402-221-7270.

Activities in Montana - The Montana Department of Fish, Wildlife and Parks (MTDFWP), through contract with the Corps, has been tracking radio/sonic tagged pallid and shovelnose sturgeon in the Missouri River

below Ft. Peck Dam and in the Yellowstone River. Four shovelnose sturgeon tagged in 1991 were relocated on the Yellowstone River in February during an aerial survey. However, no pallids were relocated.

The **MTDFWP** performed SCUBA surveys in the Ft. Peck Dam tailrace this winter. No pallid sturgeon were spotted during 37 surveys, possibly due to low visibility conditions. A shovelnose sturgeon that had been implanted with a sonic tag in July, 1991 was recaptured. MTDFWP personnel will continue work this summer in the Yellowstone and Missouri River confluence area. Gill nets will be drifted for pallids and larval fish nets will be towed to look for young-of-the-year sturgeon. Contact: Pat Clancey, Montana Department of Fish, Wildlife and Parks, Ft. Peck, MT 406-526-3471.

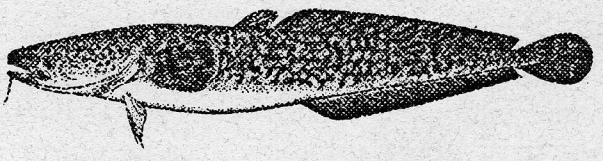
The **MTDFWP**, through cooperative funding with the **Service**, is investigating the population status and distribution of pallid sturgeon on the Missouri River upstream of Ft. Peck Reservoir. Contact: Bill Gardner, P.O. Box 1088, Fort Benton, MT 406-662-5108.

The **MTDFWP** is producing a pallid sturgeon/shovelnose sturgeon brochure to be distributed with all 1992 sport fishing licenses.

The Cooperative Fishery Research Unit (**Unit**) at Montana State University has begun a 3-year study on movement and habitat requirements of pallid sturgeon in Montana and North Dakota. The Unit research will compliment that being conducted by **MTDFWP**. Contact: Robert White, Montana Cooperative Fishery Research Unit, Bozeman, MT 406-994-3491.

The U.S. Bureau of Reclamation (**Reclamation**) has contracted with the **MTDFWP** to further investigate the status of pallid sturgeon in Montana, as associated with the Tongue River Dam rehabilitation project and the irrigation diversion at Intake. Findings will be reported in the Tongue River Dam Rehabilitation Study. Contact: Tom Parks, Bureau of Reclamation, Billings, MT 406-657-6733.

The Service's Fish Technology Center (**Center**) in Bozeman will be investigating maturation and spawning of female shovelnose sturgeon. Cryopreservation methods for preserving sturgeon milt will also be evaluated. In addition, the Center will investigate rearing larval shovelnose sturgeon under intensive culture conditions. Contact: Dave Erdahl, Fish and Wildlife Service, Bozeman, MT 406-587-9265.



Burbot

Activities in North Dakota - The Service's **Fish & Wildlife Assistance** office in Bismarck will attempt to capture ripe female and ripe male pallid sturgeon this spring from the Missouri River near Bismarck for artificial propagation at **Garrison Dam** and **Gavins Point National Fish Hatcheries**. Contact: Al Sandvol, Fish and Wildlife Service, Bismarck, ND 701-250-4419.

Fish and Wildlife Enhancement in Bismarck is informing and educating the sportfishing public about pallid sturgeon. Enhancement has provided a booth on endangered and threatened species of the Missouri River at sports and recreation shows in Bismarck and Williston. A mounted pallid sturgeon is a prominent feature of the display. Combined attendance at these two shows was estimated at 21,000 people.

The North Dakota Game and Fish Department (**NDGFD**), through cooperative funding with the **Service**, is investigating the population status, distribution and habitat preferences of pallid sturgeon and shovelnose sturgeon on the Missouri River below Garrison Dam. Pallid sturgeon captured will be transported to **Gavins Point NFH** for broodstock. It is extremely unlikely that the Missouri River between Garrison and Oahe Dams provides life requirements needed to sustain pallids in the

short term. Contact: Greg Power, North Dakota Game and Fish Department, Bismarck, ND 701-221-6300.

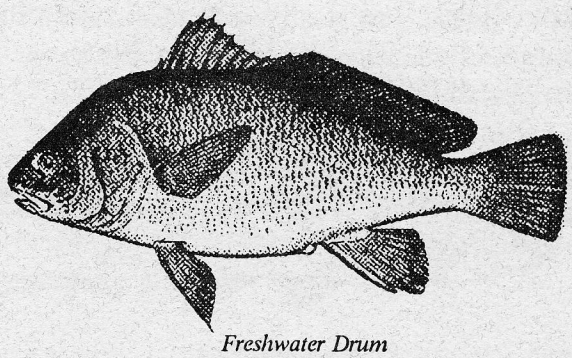
Activities in South Dakota - The South Dakota Game, Fish and Parks Department (SDGFPD) and **South Dakota State University** have conducted a study on movement and habitat selection of tagged pallid sturgeon in Lake Sharpe, a Missouri River reservoir. A report (M.S. Thesis) on the 1989-91 data should be available this fall. The SDGFPD will attempt to track the remaining tagged pallids until the tag batteries die. Contact: James Riis, South Dakota Game, Fish and Parks Department, Pierre, SD 605-773-5535.

Gavins Point National Fish Hatchery has produced a draft pallid sturgeon propagation/genetics plan to meet the needs of the Pallid Sturgeon Recovery Plan. The report is currently in the technical review process. Contact: Herb Bollig, Fish and Wildlife Service, Yankton, SD 605-665-3352.

Activities in Missouri - Missouri Department of Conservation (MDC) personnel at Columbia have recently obtained four pallid sturgeon from commercial fishermen. Their weights ranged from 4-10 lbs. Two were gravid females. The pallids were caught in the lower Mississippi River and are being held at the MDC **Blind Pony State Hatchery** near Sweet Springs for propagation and future broodstock. Three pallid/shovelnose hybrids were also caught; two were released and one is being held at the hatchery. Contact: Kim Graham, Missouri Department of Conservation, Columbia, MO 314-882-9880.

Blind Pony State Hatchery The first artificial spawning of a pallid sturgeon was successfully accomplished by manager Jerrry Hamilton. Two females provided 91,000 eggs. The progeny will be used for future broodstock and research related activities. Priority uses for the progeny are: 1) broodstock, 2) genetics evaluation, 3) feeding trials, 4) development series, 5) educational displays, 6) temperature trials, 7) contaminant analysis, and others. It is unlikely there will be sufficient numbers of larvae to advance beyond priority number five. Contact: Jerry Hamilton, Blind Pony State Hatchery 816-335-4531.

Activities in Louisiana - The **Louisiana Department of Wildlife and Fisheries** will be obtaining information on the distribution, abundance, and habitat selection of pallid sturgeon in the Old River Control Structure by working with commercial fishermen fishing the area. The study is being funded by the privately owned and operated hydroelectric power facility at the Old River Control diversion because of future biological assessment needs related to dredging at the inlets. This is the site a commercial fisherman collected seven pallid sturgeon in September, 1991. Contact: Bobby Reed, Louisiana Department of Wildlife and Fisheries, Lake Charles, LA 318-491-2577.



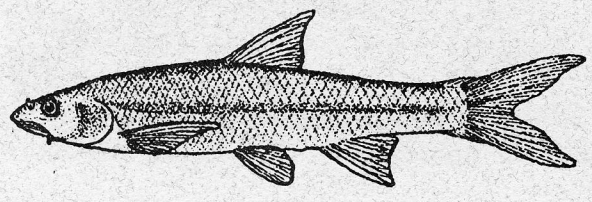
Freshwater Drum

Contaminants in Sturgeon

By Dan Welsh

One of many strategies in the draft recovery plan for the pallid sturgeon is to "protect pallid sturgeon populations, individuals and their habitat" by "obtaining information on chemical contamination of pallid sturgeon and their habitat". Contaminants-related actions for meeting this strategy are to: "determine levels of organic and inorganic environmental contaminants in pallid sturgeon and shovelnose sturgeon, and sediments" and "determine effects of identified contaminants upon sturgeon". High concentrations of polychlorinated biphenyls (better known as PCB's) and organochlorine pesticides (chlordane, dieldrin,

and DDT) were found in tissues of three pallid sturgeon collected in North Dakota and Nebraska (Ruelle and Keenlyne, in prep), indicating contaminants are a potential problem affecting recovery of the species. Because pallids are so rare, efforts to study contaminants in pallids are focusing on the shovelnose sturgeon as a surrogate species and on the Missouri River ecosystem as a whole. Efforts are underway through the Service's Environmental Contaminants program to establish a basin-wide contaminants monitoring plan aimed at protecting endangered species and their habitats. The Service has recently completed several reports on contaminants in fish of the Missouri River and its tributaries (Ruelle 1990, Allen and Wilson 1991, Sowards et al. 1991, Olson and Welsh 1992). Copies of these reports are available from the Service's Region 6 Environmental Contaminants Program Coordinator (Tom Jackson, 303-236-8180) or from the Contaminants Specialists in South Dakota (Dick Ruelle, 605-224-8693), Kansas (George Allen, 913-539-3474), or North Dakota (Dan Welsh, 701-250-4492).



Flathead Chub

Other Species of Concern

The Service's Enhancement office in Bismarck is gathering data on blue sucker (Cycleptus elongatus) populations in Montana, North and South Dakota, Nebraska, and Kansas. Data gathered will be used to prepare a preliminary report on the status of this species in the Missouri River adjoining these states, and in its major tributaries. The Service would appreciate receiving any available information on collection locations, dates, and abundance of blue suckers in the states listed above. Enhancement is also currently reviewing the status of sturgeon chub in the Missouri River Basin. Contact: Selena Werdon, Fish and Wildlife Service, Bismarck, ND 701-250-4414.

> "Living species today, let us remember, are the end products of 20 million centuries of evolution; absolutely nothing can be done when the species has finally gone, when the last pair has died out."
>
> Sir Peter Scott - 1972 Conference on Breeding Endangered Species

Pallid Sturgeon Catch Reports in 1992

A total of 9 pallids have been reported captured by fishermen and fishery field crews between November 1, 1991 and April 15, 1992. Following is a listing of reported pallid catches from throughout the species' range. These catch records and all pertinent information on capture location, length, weight, gear, etc., are recorded in the Service's Pallid Sturgeon Catch Record Database maintained in Bismarck, North Dakota.

In Missouri, a commercial fisherman on the lower Missouri and Mississippi Rivers caught four 4-10 lb. pallid sturgeon and three pallid/shovelnose hybrids. The four pallids and one hybrid are being held at the MDC Blind Pony Hatchery near Sweet Springs.

A woman fishing the Missouri River near St. Joseph, Missouri reported capturing and releasing two 8-10 lb. cream-colored sturgeon thought to be pallids. This location was near an area where a pallid was collected by the MDC several weeks earlier.

Commercial fishermen captured a pallid sturgeon between 8-10 lbs. and another between 6-8 lbs. on the Mississippi River near Caruthersville, Missouri and Chester, Illinois, respectively.

Montana fisheries biologists and Montana State University researchers caught a pallid sturgeon weighing 49 lbs. and measuring 5.3 ft. (total length) on April 10, 1992. The fish was caught in a gill net drifted on the Missouri River in

North Dakota, approximately 8-9 miles downstream from the Missouri and Yellowstone River confluence. The pallid was implanted with a radio/sonic transmitter and released. After release, the pallid moved 1-2 miles downstream, but later returned to the original capture location. University researchers continue to monitor the fish and determine its habitat selection and movement patterns.

New Pallid Sturgeon Repository

The Service's Enhancement office in Bismarck, North Dakota is now the storage site for pallid sturgeon mortalities. The Enhancement freezer unfortunately currently holds seven specimens.

Pallid Sturgeon Literature

Transactions of the American Fisheries Society will be publishing a note on pallid sturgeon fecundity by Kent Keenlyne (USFWS) in the January/February 1993 issue. A pallid length-weight relationship/conversion formula paper has also been tentatively accepted by Transactions. A paper about contaminant levels in three pallids, co-authored by Kent Keenlyne and Dick Ruelle (USFWS), has been submitted recently and a paper about condition factors and seasonal changes in 131 pallids is being reviewed.

Share what you are doing for sturgeon conservation on the Missouri and Mississippi Rivers with other sturgeon enthusiasts. The editors welcome submissions of sturgeon articles and associated materials. Please send a hardcopy and disk copy (Word Perfect 5.1, if possible) to Mark Dryer at the U.S. Fish and Wildlife Service, 1500 Capitol Ave., Bismarck, ND 58501 (701-250-4491).

New Sturgeon Species Identified In Mobil Basin of Alabama and Mississippi

By Marcy Haworth

James Williams, Fish and Wildlife Service, Gainsville, Florida, and Glenn Clemmer, Nevada Natural Heritage Program, Carson City, Nevada, recently described a previously undescribed sturgeon species, Scaphirhynchus suttkusi.

Scaphirhynchus suttkusi is endemic to the Mobile Bay drainage of Alabama and Mississippi. Specimens were captured in moderate to swift currents, at depths of 6-14 m, over sand and gravel or mud bottoms. Stomach contents analysis revealed aquatic invertebrates, oligochaetes, and mollusk shell fragments.

The first specimen of Scaphirhynchus from the Mobile Basin was collected in 1880 from the Alabama River in Alabama. It was placed in the Smithsoniam Institution mistakenly cataloged under Acipenser. Bailey and Cross (1954), in their review of the genus, apparently overlooked the specimen due to its earlier misidentification. Thus, Chermock (1955) published the first record of Scaphirhynchus (S. platorynchus) from the Mobile Bay drainage (Tombigbee River).

Currently, S. suttkusi is restricted to the Mobile Basin as a result of riverine habitat destruction due to impoundments and dredging. Historically, the species occurred in all large Coastal Plain rivers of the Mobile Basin. The new species is similar in appearance to shovelnose sturgeon, S. platorynchus, however, it differs significantly in several plate and fin ray counts. Morphometric data also revealed divergence in some head, caudal peduncle, fin, and fin placement characters.

Scaphirhynchus suttkusi is under consideration by the U. S. Fish and Wildlife Service for endangered or threatened status. The species is considered endangered by the American Fisheries Society (Williams et al., 1989).

[From: Williams, J. D. and G. H. Clemmer. 1991. Scaphirhynchus suttkusi, a new sturgeon (Pisces: Acipenseridae) from the Mobile Basin of Alabama and Mississippi. Bull. Alabama Mus. Nat. Hist. 10:17-31.]

Acipenser/Polyodon Workshop

Federal and state biologists and other researchers attended a 3-day sturgeon/paddlefish workshop in Atlanta, Georgia during January. The workshop was sponsored by the Service and discussion focused on nationwide restoration and culture techniques for these species. A report on the workshop sessions will be available by mid-summer.

Recycled paper

Pallid Sturgeon Recovery Team Members

Mark Dryer *(Leader), USFWS, Fish and Wildlife Enhancement, Bismarck, ND*

Al Sandvol, *USFWS, Fish and Wildlife Assistance Office, Bismarck, ND*

Mark Harberg, *U.S. Army Corps of Engineers, Omaha, NE*

Pat Clancey, *Montana Department of Fish, Wildlife and Parks, Ft. Peck, MT*

James Riis, *South Dakota Game, Fish and Parks Department, Pierre, SD*

Kim Graham, *Missouri Department of Conservation Columbia, MO*

Bobby Reed, *Louisiana Department of Wildlife and Fisheries, Lake Charles, LA*

Dr. Frank Chapman, *University of Florida, Gainesville, FL*

Dr. Kent Keenlyne *(Consultant), USFWS, Fish and Wildlife Assistance Office, Pierre, SD*

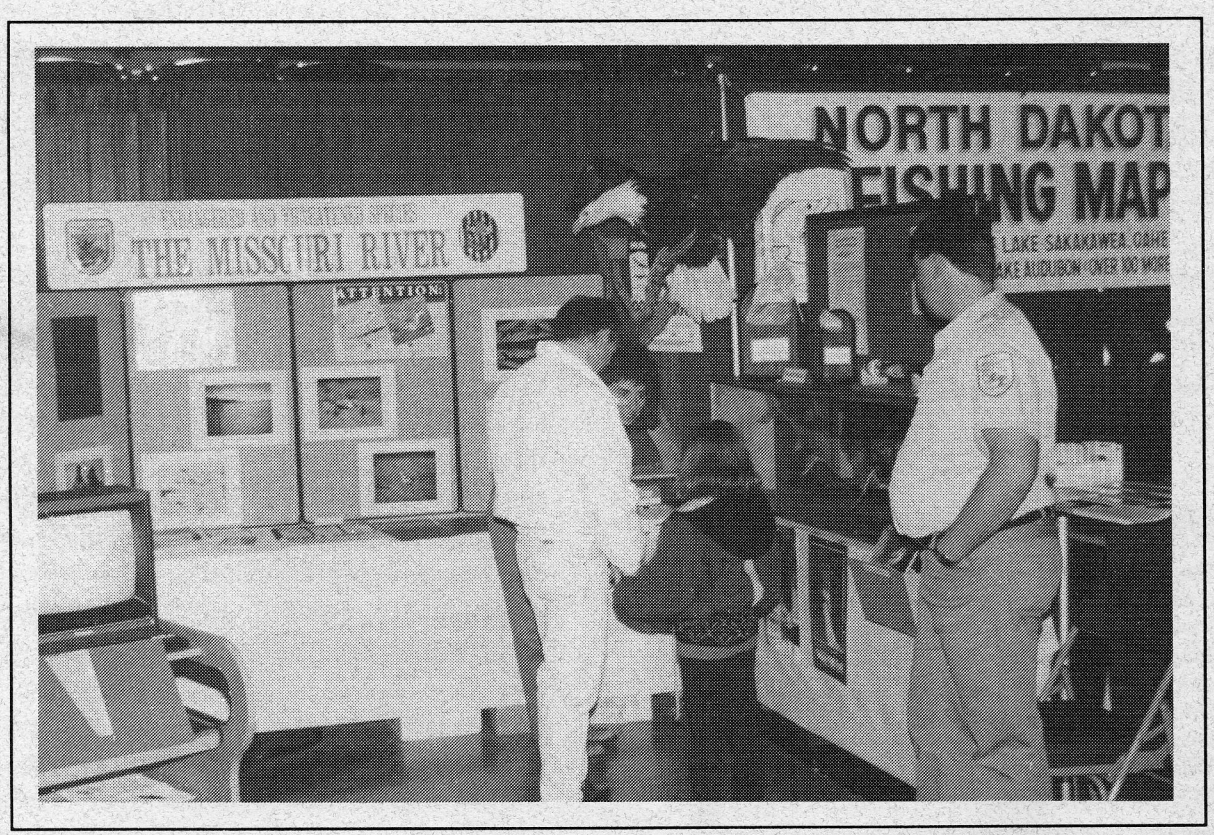


PHOTO: Enhancement booth "Endangered and Threatened Species of the Missouri River" featuring pallid sturgeon on display at the Bismarck Civic Center on February 7-9, 1992. (USFWS)